

GENERAL PHYSICS I – Question Bank 4

Subject: Free fall

Question 1

A ball is thrown upward as in the figure with an initial velocity of 50 m/s. (Take $g = 10 \text{ m/s}^2$)

- How much time does it take to reach the highest point?
- What is the max high that the ball can reach?
- What is the velocity of the ball after 7 seconds?
- What is the position of the ball after 7 seconds?

Question 2

A stone falls off a tall building and hits the ground with 60 m/s. (Take $g = 10 \text{ m/s}^2$)

- How much time does it take to hit the ground?
- What is the velocity of the stone just after 3 seconds from the beginning?
- How high is the building?

Question 3

An object is thrown downward with an initial velocity of 20 m/s. It hits the ground after 3 seconds.

- What is the velocity of the object when it hits the ground? (Take $g = 10 \text{ m/s}^2$)
- How many meters does it fall down?

Question 4

A ball thrown vertically upward with an initial velocity of 40 m/s, after 3 s what will be the final velocity?

Question 5

A stone falls off a tall building and hits the ground 5 seconds later. (Take $g = - 10 \text{ m/s}^2$)

- How high is the building?
- What is the velocity of the stone when it hits on the ground?